

REMARKS

Applicants appreciate the Examiner's thorough consideration provided the present application. Claims 1-21, 24-17, and 30-41 are now present in the application. Claims 1-19 are withdrawn. Claims 20, 21, 25-27 and 31 have been amended. Claims 32-41 have been added. Claims 22, 23, 28 and 29 have been cancelled. Claims 20 and 27 are independent. Reconsideration of this application, as amended, is respectfully requested.

Claim Rejections Under 35 U.S.C. §112

Claims 21, 25, 27 and 28 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particular point out and distinctly claim the subject matter, which Applicants regard as the invention. This rejection is respectfully traversed.

As the Examiner will note, claim 28 has been cancelled and claims 21, 25 and 27 have been amended to address the Examiner's requested changes. Accordingly, claims 21, 25 and 27 are now definite and clear. Reconsideration and withdrawal of the rejection under 35 U.S.C. § 112, second paragraph, are therefore respectfully requested.

Claim Rejections Under 35 U.S.C. § 102/103

Claims 20-31 stand rejected under 35 U.S.C. § 102(b) as being anticipated by or under 35 U.S.C. § 103(a) as being unpatentable over Wagner et al., Applied Physics Letters pp. 89-90. These rejections are respectfully traversed.

In light of the foregoing amendments to the claims, Applicants respectfully submit that these rejections have been obviated and/or rendered moot. As the Examiner will note, amended independent claims 20 and 27 have been amended to recite combinations of elements including "at least one layer of a surface nanometer functional structure being formed on a surface of the nanostructure (in claim 20)/nanowire (in claim 27), the surface nanometer functional structure includes at least one of a plurality of micro nanowires and a plurality of nanodots". Applicants respectfully submit that the above combinations of elements as set forth in amended independent claims 20 and 27 are not disclosed nor suggested by the reference relied on by the Examiner.

Wagner discloses a vapor-liquid-solid method to grow a silicon whisker on a silicon substrate. However, Wagner fails to teach the above combinations of elements as set forth in claims 20 and 27 because Wagner teaches (1) the silicon whisker silicon whisker in FIG. 2a is a 1000 Angstrom whisker, rather than a

nanostructure or a nanowire recited in claims 20 and 27, respectively (see page 89, lines 44-47); and (2) the silicon whisker grows in the direction of <111> only (see FIGS. 1b and 2a; page 89, line 30) and neither a plurality of micro nanowires nor a plurality of nanodots recited in claims 20 and 27 are formed on the surface of the silicon whisker in FIGS. 1b and 2a. In addition, the teachings of Wagner do not relate to the material with a surface nanometer functional structure and should not be used as prior art against the present invention.

Since Wagner fails to teach each and every limitation of amended independent claims 20 and 27, Applicants respectfully submit that all of the claims clearly define over the teachings of Wagner. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 102/103 are respectfully requested.

Additional Claims

Additional claims 32-41 have been added for the Examiner's consideration.

Applicants respectfully submit that claims 32-41 are also allowable due to their respective dependence on independent claims 20 and 27, as well as due to the additional recitations included in these claims.

In particular, claims 32 and 37 recite "the nanostructure (in claim 32) /nanowire (claim 37) has a longitudinal axis passing through a center of the" nanostructure or nanowire and "at least the one layer of the surface nanometer functional structure failing to be on the longitudinal axis". Wagner also fails to teach the above combinations of elements recited in claims 32 and 37 because Wagner teaches that the silicon whisker grows in the direction of <111> only and therefore the subsequent-grown silicon whisker must be on the longitudinal axis of the silicon whisker.

Dependent claims 33 and 38 go on to note that the structure is a nonlinear structure. Dependent claims 34, 35, 39 and 40 recite that the structure is branched. This can be seen, for example, in Figs. 7 and 8 of the application. Dependent claims 36 and 40 recite that at least one layer is applied to the side of the nanostructure of nanowire. This can be seen, for example, in Fig. 6 of the application. All of these materials are not found in the linear Wagner arrangement.

Nevertheless, independent claims 20 and 27 set forth a material with a surface nanometer functional structure which is neither suggested nor rendered obvious by the prior art utilized by the Examiner. Favorable consideration and allowance of all claims are respectfully requested.

CONCLUSION

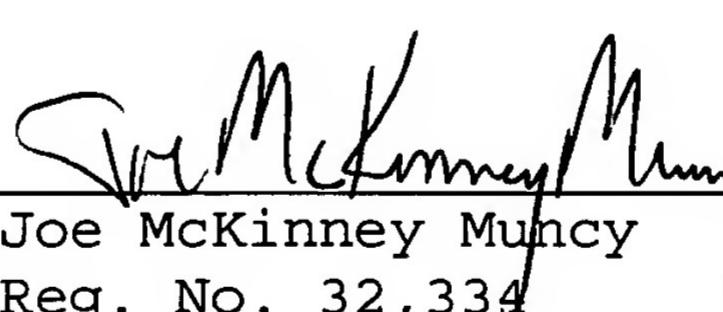
It is believed that a full and complete response has been made to the Office Action, and that as such, the Examiner is respectfully requested to send the application to Issue.

In the event there are any matters remaining in this application, the Examiner is invited to contact Joe McKinney Muncy, Registration No. 32,334 at (703) 205-8000 in the Washington, D.C. area.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By 
Joe McKinney Muncy
Reg. No. 32,334
P. O. Box 747
Falls Church, VA 22040-0747
(703) 205-8000

KM/GH/mmi/asc
3313-1048P

610